

## REMARKS

### A. Background

Claims 1-62 were pending. The Office Action rejected claims 1, 2, 6, 22, 23, 31, 33, 35, 37, 43, 48, 54, and 59 under 35 U.S.C. § 102 as being anticipated by cited prior art and claims 1-34 and 37-62 under 35 U.S.C. § 103 as being obvious in view of cited prior art. By this response, Applicants cancelled claims 7 and 9, and amended claims 1, 8, 37, 43, 48, 51, 54, and 59. Accordingly, claims 1-6, 8, and 10-62 are presented for the Examiner's consideration in light of the following remarks.

### B. Proposed Amendments.

Applicants respectfully submit that the amendments to the claims do not introduce new matter, and entry thereof is respectfully requested.

### C. Rejection Under 35 U.S.C. § 102

Claims 1, 2, 6, 22, 23, 31, 33, 35, 37, 43, 48, 54, and 59 were rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 5,657,155 issued to Cheng (hereinafter "the Cheng patent"). Applicants respectfully traverse.

The Office Action recites that the Cheng patent discloses "a beam splitter (25) ...wherein the beam splitter/combiner is configured to split the beam of light". The only beam splitter disclosed in the Cheng patent is a holographic beam sampler (HBS) (25), which "is a diffraction grating ..." (Col. 4, line 33). The HBS splits the beam of light independent of its polarization state and substantially independent of its wavelength into at least two diverging beams (col. 1, lines 49-53).

In contrast, the invention described in independent claims 1, 37, 43, 48, 54, and 59 include a beam splitter/combiner or beam splitter that splits the beam into at least a first beam

and a second beam having different polarization states. The Cheng patent specifically excludes this possibility by using a HBS. It is an inherent property of a HBS that it splits the beam without affecting the polarization state. The HBS "is capable of producing three useful pairs of transmitted orders symmetrically disposed with respect to a main beam; wherein the second and third order samples are respectively the square and cube of the first order." (col. 4, lines 33-37).

Accordingly, Applicant respectively submits that pending independent claims 1, 37, 43, 48, 54 and 59, as amended and presented herein, and dependent claims 2, 6, 22, 23, 31, 33, and 35, depending therefrom, are neither disclosed in the Cheng patent nor obvious variations of the inventions disclosed therein. Accordingly, it is respectfully submitted that claims 1, 2, 6, 22, 23, 31, 33, 35, 37, 43, 48, 54, and 59, as amended and presented herein, overcome the rejections based on Section 102.

D. Rejection Under 35 U.S.C. § 103

Claims 1-34 and 37-62 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,740,288 issued to Pan (hereinafter *Pan '288*) and further in view of U.S. Patent No. 5,208,876 issued to Pan (hereinafter *Pan '876*). These rejections are also respectfully traversed.

To set forth a *prima facie* case of obviousness the following elements must be shown, according to M.P.E.P. Section 2143 (with emphasis added):

- (1) suggestion or motivation, either in the patents themselves or in the knowledge available to one skilled in the art, to modify the patent or combine patent teachings;
- (2) a reasonable expectation of success; and
- (3) the combined patents must teach or suggest all the claim limitations of the applicant's claims.

In addition to the above, the fact that the references can be combined is not sufficient to establish *prima facie* obviousness unless the prior art, in addition, suggests the desirability of the combination. M.P.E.P. §2143.01.

Applicant respectfully asserts that it would not be obvious to modifying the Pan '288 patent to include an isolator as taught by the Pan '876. The Pan '288 patent discloses a "Variable Polarization Beam Splitter, Combiner, and Mixer" where "[c]ollimated light from two input fibers are directed against the interface of a beam splitter cube formed by two right angle prisms [and] . . . [l]ight transmitted through, or reflected by, depends upon the polarization of the incoming light." *Id.* at Abstract. The end of each input fiber and output fiber includes a "collimator subassembly" having "a collimator, either a standard lens or a GRIN lens." (Col. 4, lns. 3-6). The Pan '288 patent indicates that "[m]ore detailed information on the manufacture of these GRIN lens/optical fiber subassemblies may be found in U.S. Pat. No. 5,208,876 entitled, 'AN IMPROVED OPTICAL ISOLATOR', which issued on May 4, 1993 to J. J. Pan and assigned to the present assignee". (Col. 4, lns. 10-14).

This Pan '876 patent discloses an optical isolator where "the input fiber 17 is sealed in the glass ferrule 10 . . . and the end of the fiber 17 is slant-polished." (Col. 3, ln. 68-Col. 4, ln. 3). Facing the end of the fiber 17 is a "face 21 of [a] GRIN lens 11 . . . [that] is also reciprocally slant-polished." (Col. 4, lns. 41-42).

This passage relied upon as the "suggestion or motivation" merely enlists the Pan '876 patent to show the use of a GRIN lens/optical fiber subassembly, which forms part of invention described in the Pan '288 patent. The Pan '288 patent only mentions the Pan '876 patent to show the structure of the GRIN lens/optical fiber subassembly. There is no teaching or suggestion in either reference to use an isolator with the invention described in the Pan '288

patent. In fact, the only place the term "isolator" occurs within the Pan '288 patent is in the title to the Pan '876 patent, as quoted above.

Accordingly, Applicants respectively submit that since there is no teaching, suggestion, or motivation to combine the teaching of the Pan '288 patent and the Pan '876 patent to include an isolator with the "Variable Polarization Beam Splitter, Combiner, and Mixer" of the Pan '288 patent, the rejections based on Section 103 should be withdrawn.

E. Summary and Conclusion

In summary, Applicants respectively submit that pending claims 1-6, 8, and 10-62, as amended and presented herein, are neither disclosed in the Cheng patent, the Pan '288 patent, or the Pan '876 patent nor obvious variations of the method disclosed therein. It is respectfully submitted that the rejections of claims 1-6, 8, and 10-62, as amended and presented herein, based on Section 102 and 103 have been overcome and should now be withdrawn.

In view of the foregoing, Applicants respectfully request favorable reconsideration and allowance of the present claims. In the event that the Examiner finds any remaining impediment to the prompt issuance of the pending claims, which could be remedied through a telephonic conversation, or which is susceptible to being overcome by means of an Examiner's Amendment, the Examiner is respectfully invited to initiate the same with the undersigned attorney.

Dated this 19<sup>th</sup> day of July, 2004.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Fraser D. Roy', with a stylized flourish at the end.

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